

on the peritoneum and Glisson's capsule at the lower free margin of the gall-bladder bed form a useful rallying point when applied just before freeing the fundus of the gall-bladder in the final stage of its removal. By pulling these forceps upwards and forwards the gall-bladder pedicle is brought nearer the surface.

The wound is swabbed free of blood, the fingers of the left hand controlling the free edge of the gastro-hepatic omentum are removed and cholecystectomy forceps are applied if possible to the bleeding point or alternatively to the bleeding area which is gently drawn forward and the vessels in it caught separately and tied.

If the bleeding point cannot be tied do not pack the wound but leave on the pressure forceps for two or three days. In 1921 I operated on twenty-five patients with gall-stones in which the inflammation was limited to the gall-bladder and its surroundings and there was no need to drain the common bile duct—in fourteen the gall-bladder was removed and in eleven it was drained.

In the last four years I have operated upon 138 such patients, in 131 the gall-bladder was removed, and in only 7 it was drained. This shows that experience is an important factor in deciding between cholecystectomy or cholecystostomy.

## THE SEPTIC UTERUS: THE TREATMENT BY GLYCERINE IRRIGATION.

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It is evident from the number of medical men who visit St. Mary Abbott's Hospital, and also from what the writer has seen in other hospitals, that the technique of glycerine injection varies considerably. The exact treatment as carried out at this hospital may, therefore, be helpful.

The instruments required are (fig. 1):—

- (1) A catheter introducer.
- (2) A terminal-eyed soft rubber catheter marked in inches.
- (3) An anterior vaginal wall retractor.
- (4) A modified Sims' speculum.
- (5) A 2-c.c. Record syringe.
- (6) A modified sponge-holding forceps.

The patient is placed in the lithotomy position. This position is important in order to thoroughly cleanse the vulva and gives the best exposure of the cervix. If the patient is very ill the treatment is carried out at the side of the bed or on a special obstetric bed.

### Preparation of Patient.

The external genitalia are thoroughly washed with ether soap and water (1 dr. to 1 pint) and saline.

The anterior vaginal wall retractor and Sims' speculum are held in the right hand, the anterior vaginal wall retractor being enclosed by the ring and little fingers. The Sims' speculum is held by the middle and index fingers in front and the thumb behind, thus grasping one end of the body of the duckbill.

The left index finger is introduced along the posterior vaginal wall, drawing the perineum upwards and backwards. The Sims' speculum is inserted along the index finger and allowed to slip into the posterior fornix. The finger is then withdrawn.

The left hand now holds the lower end of the speculum with the little finger below, which prevents the hand from slipping. The anterior vaginal wall retractor is introduced into the anterior fornix, so that the lower end lies parallel to the cervico-vaginal junction. In this way the shaft projects obliquely from the vagina.

By a series of gentle movements involving the raising of the anterior vaginal wall the cervix is manipulated into a central position. The Sims' speculum must not be pushed too deeply and the anterior vaginal wall retractor must be held parallel at a suitable distance from the speculum. The vagina is swabbed with warm glycerine, care being taken not to touch the cervix.

A 2-c.c. Record syringe filled with warm glycerine is attached to a catheter of suitable size. The catheter should be smaller than the cervical canal in order to allow the free return of glycerine by its side. The syringe is held in the left hand between the middle and index fingers. The catheter is held at the first inch mark by the catheter introducer and inserted one inch into the cervical canal, glycerine being injected simultaneously. The catheter is slowly introduced into the uterus, syringing glycerine in front of it, thus making a bed of glycerine and facilitating its upward progress. The syringe is then

**Technique.**

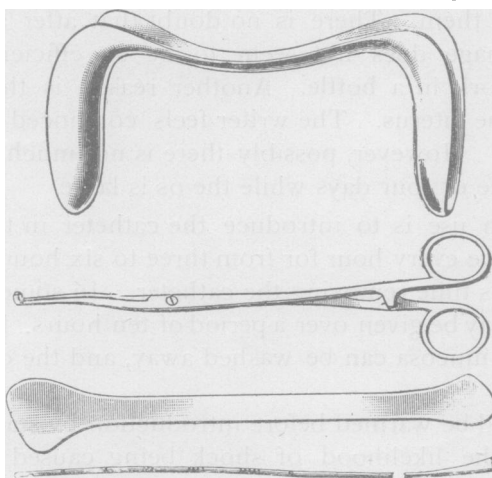


FIG. 1.

detached and the speculum and retractor are removed. A sterile pad is placed over the proximal end of the catheter, leaving a small loop of the catheter visible.

The patient's legs are lowered and the patient placed in a comfortable recumbent position with the shoulders raised, and a pillow is placed under the knees. Sterile towels are placed, one above and the other below, the pubes. The proximal end of the catheter is then recovered from the pad and inspection is made to see that the catheter has not slipped. The proximal end of the catheter is then placed on the sterile towel above the pubes. The syringe, filled with warm glycerine, is re-attached and the glycerine can then be slowly injected, drop by drop, without causing the patient any pain or discomfort.

At frequent intervals inspection should be made to see that the glycerine is returning from the uterus.

If the patient complains of pain, a rare event in the puerperal uterus, the catheter is removed.

The advantages of this method are :—

- (1) No anæsthetic is necessary as a rule.
- (2) The cervix becomes readily accessible for catheterization and can usually be placed in a central position.
- (3) No volsellum is placed on the cervix.
- (4) No dilators are required.
- (5) Retained products can be twisted from the cervical canal.
- (6) The position of the uterus is not altered, a factor of importance in the treatment of pelvic peritonitis.

The question of the drainage tube must next be considered. There still seems to be a diversity of opinion as to whether a drainage tube should be left in the uterus and injections given every few hours, or whether the uterus should receive a careful and prolonged treatment two or three times a day, the catheter being re-introduced before and after each treatment. The

**Drainage.**

first method of course is easier and can be continued throughout the day by the nurse. The catheter can be removed each day and sterilized. The disadvantage of this method is that the long-continued contact of a tube with inflamed tissues is apt to irritate them. There is no doubt that after a few days as the cervix becomes smaller, drainage does not seem to be so efficient, because the tube is rather like leaving a cork in a bottle. Another reason is that it interferes with the contractile power of the uterus. The writer feels convinced that it tends to promote secondary hæmorrhage. However, possibly there is not much objection to leaving the tube in for the first three or four days while the os is large.

The method now in use is to introduce the catheter in the morning and to give 100 c.c. of warm glycerine every hour for from three to six hours, depending on the type of case, at the end of this time removing the catheter. In some severe cases of toxæmia 1,000 c.c. of glycerine may be given over a period of ten hours. In this way all the mucus adhering to the uterine mucosa can be washed away, and the drug can get down to the inflamed tissues.

The glycerine should be warmed before introduction by standing the vessel in warm water. This obviates the likelihood of shock being caused by the entry of a cold substance.

The size of catheter is regulated by the size of the os. It should be sufficiently small to pass easily through the cervix and leave room for the glycerine to drain away beside it.

In using a syringe of small size, e.g., a 2-c.c. Record, the amount of force exerted is less than if a larger size, e.g., a 10-c.c. syringe, were used, and consequently there is less likelihood of suddenly distending the uterus and causing pain and perhaps collapse.

The glycerine must be introduced slowly. It may be necessary to give it drop by drop in the case of the small sensitive uterus.

Each patient, however, must be studied individually, since the amount suitable for one patient may not be suitable for another. The same patient will vary in tolerance from time to time. The patient should be asked if she has pain, and if so treatment is stopped.

It is necessary to see that the glycerine is draining away all the time.

(The Indications for Treatment will appear in the next issue of the Journal.)